



GOLDER

Report

Engineering Report

STL Land Development LLC - St. Louis

Submitted to:

STL Land Development LLC - St Louis

401 Adelaide Avenue,
St. Louis, MO 63147

Submitted by:

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Distribution List

Missouri Department of Natural Resources

STL Land Development LLC

Golder Associates Inc.

Table of Contents

1.0 INTRODUCTION (10CSR80-2.020(3)(A)(2)B, D, AND G)	1
2.0 SITE SELECTION (10CSR80-5.010(3))	1
2.1 Evidence of Financial Responsibility	2
2.2 Zoning and Planning (10CSR80-5.010(2)B))	3
2.3 Roadways	3
2.4 Utilities	5
2.5 Design (10CSR80-5.010(2)(C))	5
2.5.1 Equipment	5
2.5.1.1 Processing Equipment	5
2.5.1.2 Equipment Inspection and Maintenance	6
2.6 Water Quality (10CSR80-5.010(5))	7
2.6.1 Storm Water	7
2.6.2 Process Wastewater	7
2.6.3 Domestic Wastes	7
2.7 Air Quality (10CSR80-5.010(6))	7
2.8 Vectors (10CSR80-5.010(7))	8
2.9 Aesthetics (10CSR80-5.010(8))	9
2.10 Residue and Processed Solid Wastes (10CSR80-5.010(9))	9
2.11 Safety (10CSR80-5.010(10))	10
2.11.1 Personal Protective Equipment	10
2.11.2 Scavenging and Salvaging	11
2.11.3 Security and Access Control	11
2.11.4 Fire Protection	11
2.12 Records (10CSR80-5.010(11))	11

FIGURES

- Figure 1 Site Location Map
- Figure 2 Land Use Map
- Figure 3 Site Zoning Map
- Figure 4 Surface Water Control and Utility Map
- Figure 5 Site Layout
- Figure 6 Exterior Elevation
- Figure 7 Site Floor Plan and Interior

APPENDICES

- Appendix A Application for Solid Waste Disposal Area or Processing Facility Construction Permit
- Appendix B Proof of Property Ownership
- Appendix C Proof of Registration with Secretary of State
- Appendix D Zoning and Planning Compliance
- Appendix E Site Operations Plan
- Appendix F Air Quality Permit Application

1.0 INTRODUCTION (10CSR80-2.020(3)(A)(2)B, D, AND G)

This Engineering Report (ER) has been prepared for the STL Land Development - St. Louis solid waste processing facility (Facility) located at 401 Adelaide Avenue, St. Louis County, St. Louis Missouri 63147 (Property), as shown on Figure 1. This ER is prepared to meet the documentation requirements of the Missouri Department of Natural Resources (MDNR), Solid Waste Management Program (SWMP), Application for Solid Waste Disposal Area or Processing Facility Construction Permit (Application) covered in 10 CSR 80-2.020(3) Solid Waste Processing Facility Permits. A copy of the Application form is provided in Appendix A of this ER.

STL Land Development LLC (the Company or STL Land Development) proposes the construction and operation of a solid recoverable fuel (SRF) production facility (Project) that will produce an alternative solid fuel that is derived from post-recycled single-stream Municipal Solid Waste (MSW).

The Project will be situated on approximately 20 acres of privately-owned land, located in the City of St. Louis, east of Interstate 70 and west of the Mississippi River. The Property is located adjacent to the existing Norfolk Southern rail line. Access to the Facility will be from Carrie Avenue from the northwest or Adelaide Avenue (from North Broadway) to the southeast.

The Project will divert up to 2,250 tons per day (tpd) of MSW from local landfills. The raw MSW is to be delivered to the Facility by truck. MSW will then be sorted and separated and will either be converted (at the Facility) into a solid fuel product or recycled offsite. A portion of the MSW, approximately 10-20%, that cannot be converted or recycled will be transported to an offsite landfill. Local municipalities and waste management service companies will provide the MSW to be used for feedstock.

The Facility will operate 24 hours per day. Established receiving hours will be influenced by municipal route truck receiving hours and is estimated to be from 6:00 A.M and 7:00 P.M. Internal processing of received waste will continue into the night until finished. Waste on the tipping floor from the prior day will be processed or containerized, and the tipping floor cleaned prior to the start of receiving waste again at 6:00 A.M. the following day.

This ER has been prepared by Golder Associates Inc. (Golder) and is being submitted on behalf of the permittee. Detailed Facility design plans and specifications signed by a professional engineer contain necessary information reflecting the new Facility. The ER is intended to comply with the MDNR Solid Waste Management laws and rules.

2.0 SITE SELECTION (10CSR80-5.010(3))

This section addresses the requirements of solid waste processing facilities as described in 10 CSR80-5.010.

STL Land Development selected the property at 401 Adelaide Avenue, St. Louis Missouri after an in-depth property search in the Metro St. Louis area. STL Land Development conducted an in-depth property search

considering criteria needed for an SRF production Facility as described below. Property evaluated during the in-depth property search was scored for each criterion. Scoring was based on the criteria level of importance to properly select the best location.

To facilitate the in-depth property search, STL Land Development created a matrix taking into consideration the following criteria:

- Property centrally located to current trash collection and disposal areas to minimize truck travel time for multiple solid waste districts.
- Property with quick and easy highway access - On/Off highway ramps located within minimal distance from the highway.
- Property with easy and safe traffic flow and access for entering and exiting of multiple types and sizes of trucks.
- Property with Heavy Industrial zoning and have little to no impacts on residents.
- Property with adequate size and location to fit a building configuration to properly and safely allow for growth and the safety of all who enter and leave the Facility
- Property with the following infrastructure and land improvements, including:
 - Utility and sewer connections with proper availability for the Facility's needs
 - Proper grading
 - Environmental testing and regulatory approval (No Further Action [NFA] letters) from MDNR
 - Proper surveying already completed
 - Rail access
- The property within an Opportunity Zone.
- Other financial incentives from the property.

2.1 Evidence of Financial Responsibility

As a limited liability company, STL Land Development will obtain a surety bond in the amount of \$800,000 to provide financial assurance in the event the facility closes leaving the tipping floor full of mixed MSW. Based on discussions with SWMP, STL Land Development understands the bond will need to be sufficient to cover the cost for removal of unprocessed MSW, assuming the tipping floor was filled with waste from wall to wall and to the ceiling (assuming 80% pile consideration). Considering the approximately 35,000-square foot tipping floor, 25 feet high walls and 80% pile consideration for volume estimation, the tipping floor would hold approximately 26,000 cubic yards of unprocessed MSW. The waste is assumed to be 750 pounds per cubic yard worst case (assuming the material is wet), as the weight of a cubic yard of dry uncompacted mixed residential/commercial MSW is estimated between 250 to 350 pounds. The cost for disposal at a landfill is estimated at \$65 per ton, as

the average cost for residential/commercial waste disposal in the area ranges from \$55 to \$75 per ton. Based on the above variables, the cost to load, transport and dispose of 26,000 cubic yards of wet mixed MSW from the Facility is estimated at \$800,000.

2.2 Zoning and Planning (10CSR80-5.010(2)B))

Land use in the vicinity of the Property is commercial and industrial. The Property is in an area of the City of St. Louis with a zoning designation of "K" – Unrestricted District and North Broadway Vicinity Commercial Area Special Use District. Surrounding properties are zoned as "unrestricted" or "industrial". The Property is located within the North Riverfront Neighborhood of the City of St. Louis. Maps showing land use and zoning within 1,000 feet of the Property including all residences, buildings and roads are presented in Figures 2 (Land Use) and 3 (Zoning).

The Property is currently owned by North River Front Investors LLC and STL Land Development has a written agreement to purchase the Property. A Parcel Information sheet and the written agreement to purchase the Property are included in Appendix B. Proof of Registration with the Secretary of State is provided in Appendix C.

STL Land Development met with the City of St. Louis Zoning Administrator (Ms. Mary Hart Burton) to discuss planning and zoning compliance. A set of facility design plans was submitted for zoning only review on February 1, 2019. Based on the Building Commissioner's determination that it would violate the Zoning Code to construct a commercial waste processing facility in the area, a zoning hearing was scheduled for March 6, 2019 with the Board of Adjustment. Based on documents provided and information presented at the zoning hearing, the Board of Adjustment granted a use variance in a letter dated March 13, 2019. A copy of the variance letter is included in Appendix D.

The Facility is not expected to affect surrounding land uses with respect to noise, odors, air pollutants and potential explosions or fires. STL Land Development has no records of complaints related to current operations at other facilities.

2.3 Roadways

The Property is located in close proximity to Interstate 70 (I-70) and accessed by City of St. Louis maintained paved roadways designed for commercial truck traffic. A graph detailing the Facility's trip distribution is presented below. The potential incremental effect from added vehicle traffic due to Facility operations upon the roads traffic, volume, and weight is negligible.

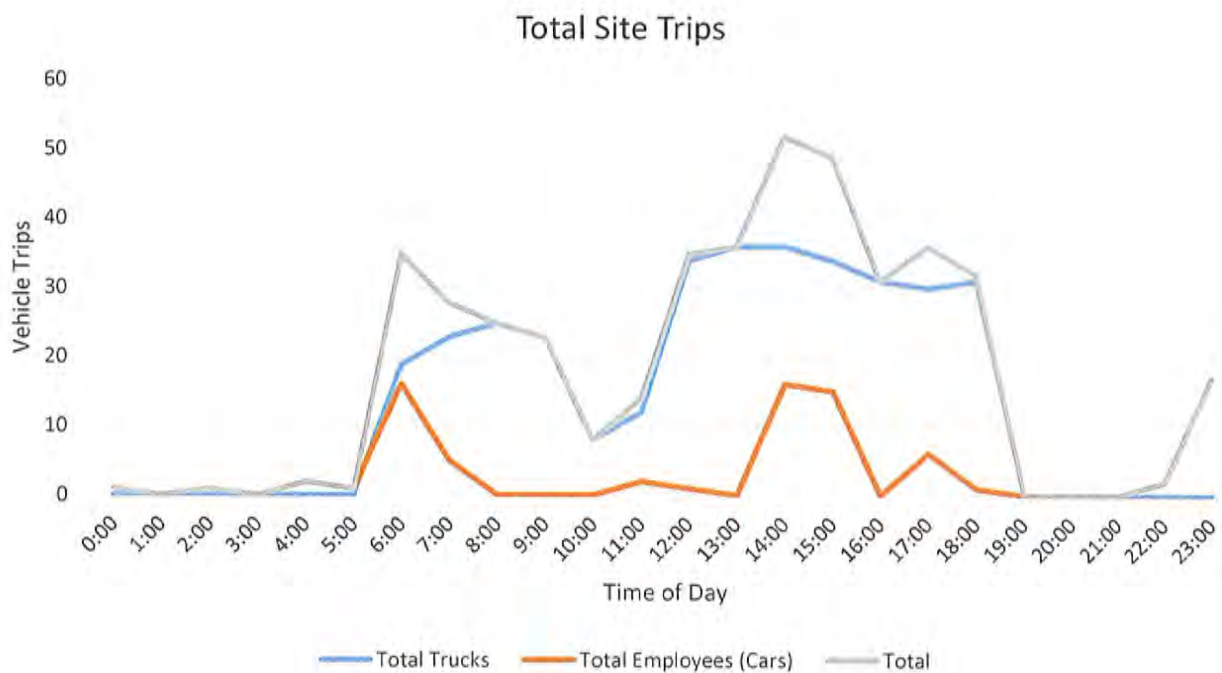
Each incoming waste truck is assumed to have a capacity of 22 tons per load. With a projected total incoming amount of 2,250 tons per day, the projected number of incoming feedstock supply trucks is 102 (102 entering and 102 exiting, for 204 trips). The applicant expects the Facility to accept deliveries between 6:00 A.M and 7:00 P.M., with roughly 1/4 between 6:00 A.M. and 10:00 A.M., and 3/4 between 12:00 P.M. and 7:00 P.M.

The total tonnage of outbound recyclables and refuse is estimated to be 485 tons per day, which would require roughly 22 truckloads per day (44 trips). Applying an approximate 8% capacity reduction to each load loss results in a total of 24 truckloads per day (48 trips) for reuse and recycling. The outbound SRF amount is estimated to be 969 tons per day, or 44 truckloads (88 trips per day). The remainder of incoming tonnage is moisture weight.

The estimated total employee count is 86 per day, with two main shifts for processing employees (7:00 A.M. - 3:00 P.M. and 3:00 P.M. - 11:00 P.M.).

The projected total daily and peak hour trip generation estimates by vehicle type are shown in table below.

Vehicle Type	Daily Trips	A.M. Peak Hour (6:00-7:00)	P.M. Peak Hour (5:00-6:00)
Feedstock Delivery Truck	204	13	22
Recycling & Refuse Trucks	48	2	2
SRF Delivery Trucks	88	4	6
Employees	86	16	6
TOTAL	426	35	36



Daily Trip Distribution

Assuming a peak hour capacity for two-lane urban roads to be 1,500 trips per hour in each direction, the project traffic volume does not meet the minimum 5% threshold for significance. Using the most conservative estimate of all P.M. peak hour traffic using the east bound lane, the project percentage would be 2.4% of capacity. Pursuant to Missouri Department of Transportation Engineering Policy Guide Section 941.8 – Traffic Study Requirements, "For small developments generating fewer than 100 vehicles during the peak hour, or roughly 1,000 additional vehicles per day, a traffic impact study is normally not required." Therefore, no further analysis is required.

2.4 Utilities

The City of St. Louis is expected to provide potable water, sanitary sewer, and storm water sewer access to the Property. Electrical power and natural gas are anticipated to be provided to the Property by private entities. The planned location of utilities entering the Property is provided on Figure 4. The potential incremental impact from the added utility use due to Facility operations is not an issue.

2.5 Design (10CSR80-5.010(2)(C))

The Facility is designed to protect human health and the environment. An overall layout of the Facility is presented in Figure 5, and additional figures are provided for details on surface water control and utilities, transportation/traffic flow, Facility elevations, and site floor plan and interior (Figures 4, 5, 6, and 7). All waste processing activities will be conducted within the site building. STL Land Development understands that a land disturbance permit, including a construction Stormwater Pollution Prevention Plan, will be required before MDNR will issue an Operating Permit.

2.5.1 Equipment

2.5.1.1 Processing Equipment

Two separate processing lines are incorporated for system redundancy, maintenance and safety. The patent pending system design includes the following components that will be able to process and recycle MSW into SRF:

- 2 Trommels: Trommels with 8" liberate and open bags separating material <5" minus.
- 2 Glass Breakers: Glass breakers crush the glass down to a silica.
- 2 Primary Shredders: The first in line of the shredders to uniformly reduce material size to <10" minus.
- 9 Volumetric/Moisture/BTU Analyzers: Located throughout the system and provide moisture data, BTU values and tons per hour throughput. Data necessary for system to make automatic adjustments and the algorithms to instruct the optical sorter on the reduction amount of recovery to the SRF for increased BTU value.
- 3 High Gauss Drum Magnets: High Gauss removes all stainless steel down to watch/hearing aid batteries.
- 3 Eddy Currents: Recovery of aluminum cans, foil, pie tins, aluminum trays, etc.
- 6 Drum Magnets: Recovery of all ferrous metals, tin cans, door knobs, tools, etc.

- 2 3D/2D incline screens: Separation of fiber and containers.
- 2 Light/Heavy Air Separators: Primary separation of heavies, shoes, bricks, wood, etc.
- 6 Optical Sorters: Optical Sorters recover PET, HDPE (colored & natural), and PVC which is a contaminant in the SRF.
- 2 Artificial Intelligence (AI) Robotic Arms: Robotic arms recover aseptic packages and provide quality control (QC) before baling.
- 2 Secondary Shredders: The secondary shredders reduce the SRF down to a <2" minus.
- 3 Vibrating Fluidized Bed Dryers: Non-Thermal vibrating dryers reduce the moisture content in the SRF to <15%.
- 1 Material Testing Trommel: The testing trommel provides a sample every 5 minutes. If the SRF passes it gets baled. If moisture is too high or BTU's too low, material recirculates to be blended.
- 3 High Density Balers: Fast high compaction balers for PET, Aluminum, HDPE, Metal, Aseptic Package, and SRF.

2.5.1.2 Equipment Inspection and Maintenance

The Facility Manager is responsible for weekly inspection of equipment or the scheduled evaluation of some characteristic relative to a standard or predetermined specification. These operating specifications may be set by either the manufacturer or adjusted based on the work of a qualified service contractor. Employees are trained in the operation of the equipment program settings.

At least once annually, the Facility will calibrate the scales used to weigh waste accepted for processing or transfer and obtain certification of the accuracy of the scales from the Missouri Department of Agriculture.

Inspections of the Facility will be performed daily to ensure the identification and correction of malfunctions, deterioration, calibration errors, operator errors and incidents. Inspection records (maintained electronically or in hardcopy) will include, at a minimum, the following information:

- Date and time of inspection
- Name of inspector
- General description of housekeeping and cleanliness of the Facility
- Description of the nature of the inspection, specific equipment and structures inspected, observations made, and remedial efforts recommended or performed

2.6 Water Quality (10CSR80-5.010(5))

The Facility will discharge wastewater in accordance with City of St. Louis Metropolitan Sewer District (MSD) requirements. All waste processing and transfer activities will be conducted within the site building. Wastewater effluent will be evaluated, and a permit obtained if deemed necessary.

2.6.1 Storm Water

The majority of storm water from building roof tops and surface areas of the Property will drain to inlets located in outdoor areas of the Property. Drains flow to one of three onsite stormwater ponds, which ultimately discharge to the City of St. Louis municipal storm sewer system. Drainage is determined by the topography, which is shown on Figure 5. Limited storm water will infiltrate small landscaped areas, and a small amount of storm water will leave the Property via sheet flow. No processed or unprocessed waste is stored in this area. No unprocessed waste material will come in to contact with the storm water that drains to the ponds.

2.6.2 Process Wastewater

Surface water drains will be installed throughout the processing areas and along portions of the conveyor to capture liquids and wash water. Trenches are located beneath portions of the conveyor to facilitate collection of wash water. These drains will collect liquids and run them through one of two oil-water separators prior to discharge to the MSD system. As a preventative measure to control vectors, the tipping floor will be cleaned at least daily, which consists of applying an organic cleaning solution to areas that have come in contact with waste materials. The area is thoroughly rinsed to free the work area of organic solution and water. Wash water generated from equipment is collected from the area in and around the equipment unit and discharged to the MSD sanitary sewer.

In the event of an accidental spillage of wastewater outside the building, the Water Protection Program will be notified immediately, and the spill will be contained and cleaned up following the Facility's spill management procedures (Section 8.5 of the Facility Emergency Action Plan [EAP]).

2.6.3 Domestic Wastes

Domestic waste generated from restrooms and employee break areas will be discharged directly into the MSD sanitary sewer.

2.7 Air Quality (10CSR80-5.010(6))

According to Missouri Code of State Regulations (CSR), all new installations built after May 13, 1982 with the potential to emit (PTE) a regulated air pollutant in an amount equal to or greater than the De Minimis (threshold) level are required to obtain a construction permit. Per Division 10, Chapter 6 of the CSR (10-CSR 10-6.020(P)38), PTE is defined as the emission rates of any pollutant at maximum design capacity, which is based on the use of federally enforceable permit conditions on the type of materials combusted or processed, operating rates, hours of operation, and the application of air pollution control equipment.

The PTE of the project is summarized below in tons per year (TPY) and compared to the De Minimis emissions levels. The facility is not one of the 28 named source categories as defined in 10 CSR 10.6.020(3)(B), Table 2. As shown, the PTE of regulated air pollutants and HAPs are below the De Minimis levels. PTE for all pollutants except for PM, PM₁₀, and PM_{2.5} are based on the maximum design capacity and continuous operation without the effect of any pollution control equipment. The PTE for PM, PM₁₀, and PM_{2.5} are however based on the application of baghouse dust collectors.

An air construction permit is required for the pollution control equipment and enforcing the operation of the control equipment. A De Minimis air construction permit is therefore required for the project.

Pollutant	Fugitive Emissions (TPY)	Non-Fugitive Emissions (TPY)	De Minimis Levels (TPY)
PM10	0.49	7.963	15
PM	1.33	7.963	25
SOx	-	0.12	40
NOx	-	8.15	40
VOC	-	0.19	40
CO	-	60.33	100
HAPs	-	0.03	10/25

Appendix F includes a copy of the de minimis air construction permit application including Tables 1 through 10 (detailed emission calculation for each emission source) and Table 11 (summary of the Facility-wide emissions).

Rule 10 CSR 10-6.165 restricts emissions of excessive odorous matter. The project will be designed and operated to prevent excessive odorous emissions. Odor control measures will include prompt processing of incoming wastes inside building, daily housekeeping to ensure floors are swept and clear of debris, prompt removal and transport to offsite landfills of processed waste in enclosed containers.

2.8 Vectors (10CSR80-5.010(7))

Conditions will be maintained that are unfavorable for the harboring, feeding, and breeding of vectors. Vectors will be controlled through proper daily Facility operations. A licensed professional will apply pesticides for control of vectors to ensure that the proper controls and/or chemicals are used and properly applied.

The potential for vectors to occur at the site is minimal, as all waste materials are containerized coming into the site, offloaded at loading docks inside the building, and promptly processed. After processing, SRF is immediately baled for transport to end user. No waste or debris that could be an attractant to vectors is present in the SRF. If spills

occur, they are immediately contained and cleaned up according to the Facility spill management procedures (Section 8.5 of the Facility EAP). Daily inspection and cleanup as needed of floors in the waste processing area are conducted to maintain the Facility in a clean condition. In addition, the Facility maintains a contract with a third party for quarterly inspections and control measures as needed for rodent control. If indication of the presence of vectors is observed between visits, the licensed professionals from the vector control company will be contacted for issue-specific services.

The Facility's housekeeping schedule includes housekeeping activities including, but not limited to, the following:

- Cleaning, unloading and loading areas as spillages occur
- Litter and dust control
- Containerization of putrescible waste at the end of each day
- Routine facility cleaning
- Vector control contingency

2.9 Aesthetics (10CSR80-5.010(8))

Unloading, storage, and processing of MSW will be conducted within the confines of the site building and will not be visible to the public. The processing area of the Facility will be cleaned throughout operating hours.

Housekeeping and litter removal will be performed under an established daily schedule. The Facility is designed for ease of cleaning, and all operations except trucking of materials onto and off the site occur inside the building in the designated waste storage and processing areas. Process floor interiors will be washed daily with warm high-pressure washers to remove any process liquids or wastes that may come in contact with the floors. The outside parking and storage areas will be inspected for trash and litter daily and any such materials will be removed. All site roads, parking, and vehicle maneuvering areas are paved which will minimize any dust and mud generated at the site; therefore, dust control measures are not required for this site.

2.10 Residue and Processed Solid Wastes (10CSR80-5.010(9))

Recycled materials and SRF will be shipped offsite for beneficial reuse. Remaining MSW (approximately 10-20% of incoming single-stream MSW feedstock) will be disposed of offsite in an environmentally acceptable manner at a local landfill. No wastes will be disposed at the Facility. All single-stream MSW that is processed, generated, or accumulated at the Facility is shipped for offsite beneficial reuse and/or disposal at appropriately permitted facilities that may accept the materials. Non-putrescible MSW that is processed will be removed within seven days per 10CSR 80-5.010(8)(C)2.

Materials for recycling or resource recovery will be stored inside the site building or in semi-truck trailers in the parking lot to prevent vector or aesthetic problems or transported to another solid waste processing facility for further

processing. Transportation of residue or processed solid waste will be by means that prevent the material from sifting, falling, leaking or blowing from the vehicle.

2.11 Safety (10CSR80-5.010(10))

Each employee will receive initial and periodic on-going training through safety meetings supervised by management. Such meetings will cover basic subjects such as: (1) blood-borne pathogens; (2) personal protective equipment; (3) waste material container handling; (4) operation of equipment; and (5) contingency operations. Such training will include both verbal instructions and video instruction. Management has the responsibility to see that Facility practices and processes are so engineered, constructed, maintained, and operated as to provide safe and healthy conditions at all times.

Management will supervise all activities to ensure the safety of all persons at the Facility through inspection, training, instruction, and remedial action. Safety will be the primary consideration during all operating activities. STL Land Development shall be responsible for implementing and communicating to all employees the recognized safety rules, practices, and procedures.

Individual on-off switches must control all components in the Facility processing systems, and emergency-stop switches must also be located throughout the processing lines. The Company shall conduct fire safety training in accordance with the relevant National Fire Protection Association (NFPA) standards and periodic, but at a minimum, semiannual, fire drills for all employees. Fire extinguishers located throughout the Facility shall be inspected periodically by site personnel and an outside vendor. Records of all such inspections will be retained onsite.

2.11.1 Personal Protective Equipment

Appropriate Personal Protective Equipment (PPE) will be provided by STL Land Development to each employee and will be required in areas where a potential for exposure to waste exists. PPE will be considered appropriate only if it prevents potential physical and chemical concerns from passing through or reaching the employee's skin, eyes, mouth, or other mucous membranes, under normal conditions of use and for the duration of time during which the PPE will be used. The Facility maintains written programs for PPE. A copy of the Facility's PPE program is presented in the Site Operations Plan.

STL Land Development will enforce the following PPE Policy:

- The use of appropriate PPE shall be mandatory
- The appropriate PPE, in appropriate sizes, will be readily available at the Facility or will be otherwise issued to employees
- STL Land Development will be responsible for establishing a uniform cleaning service
- STL Land Development will replace PPE (other than uniforms), as needed, to maintain effectiveness, at no cost to employees, save and except for isolated instances of employee misuse or negligence

- PPE will be provided, as appropriate, according to employee job descriptions
- Uniforms, with adequate clean replacement sets as required, will be provided by a local vendor and be required to remain onsite at all times
- Gowns, aprons and/or other protective body clothing
- Steel toe work shoes

2.11.2 Scavenging and Salvaging

No personal scavenging or salvaging of waste materials that enter the Facility will be allowed by Facility employees. Scavenging and salvaging may be grounds for termination.

2.11.3 Security and Access Control

Public access to the Facility will be controlled by means of a gated perimeter fence and barriers. Facility security measures are designed to prevent unauthorized vehicular traffic and unauthorized, uncontrolled waste shipments from entering the Facility to protect the Facility and its equipment from possible damage caused by trespassers and to prevent disruption of Facility operations caused by unauthorized site entry. Security and access control are further detailed in the Site Operations Plan.

2.11.4 Fire Protection

The Facility maintains a written Emergency Action Plan (EAP) that covers incidents like spills and fires. A copy of the EAP is presented in the Site Operations Plan (Appendix E).

The following steps are taken regularly by designated personnel to prevent fires:

- Smoking is not permitted in or near any waste management area.
- Facility staff members are trained to be alert and look for signs of burning waste such as smoke, steam or heat being released from incoming waste loads.
- Equipment used to move waste materials around the Facility are cleaned and maintained regularly to prevent overheating or malfunction that could lead to fires.
- The Facility is equipped with a high hazard fire suppression system and a Fire Rover infra-red camera instant suppression system on the Tip Floor.

2.12 Records (10CSR80-5.010(11))

Records and monitoring are maintained covering:

- Quantity of MSW received each day
- Major operational problems, complaints or difficulties
- Vector, odor and litter control efforts

Tracking documents, operating records, test results and process monitoring records pertaining to waste will be kept for a period of at least three years (either hard copy or electronically). These records will be made available for inspection by MDNR upon request. A Daily Solid Waste Record shall be maintained (electronically) at the Facility which will include the day of the week, date, Facility name, permit number and address, total amount of waste received/transported, day the waste was transported from the Facility, name of the individual or company transporting the waste (if different from the Facility), name and address of the disposal area to which the waste is transported, and the weight of the waste. If an unacceptable load is received at the facility, the appropriate information will be recorded, including but not limited to: the transporter name, address, ID if applicable, type of unacceptable waste, date, etc. Daily housekeeping is also documented, and details regarding housekeeping are presented in Appendix D (maintained either hard copy or electronically).

Signature Page

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APPENDIX E

Site Operations Plan



REPORT

Site Operations Plan

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Table of Contents

1.0 INTRODUCTION (10 CSR80-2.020(3)(A).1. AND 2.)	1
2.0 DESIGN AND OPERATION (10CSR80-5.010)	1
2.1 Types of Waste Accepted (10CSR80-5.010(2)(B))	1
2.2 Satisfactory Compliance – Operation (10CSR80-5.010(2)(C))	3
2.2.1 Normal Site Operations and Accepting of Waste Onsite	3
2.2.2 Logging of Time Waste is Accepted Onsite	4
2.3 Site Selection (10CSR80-5.010(3))	4
2.4 Design (10CSR80-5.010(4))	4
2.4.1 Equipment	4
2.4.1.1 Processing Equipment	4
2.4.1.2 Equipment Inspection and Maintenance	5
2.5 Water Quality (10CSR80-5.010(5))	6
2.5.1 Storm Water	6
2.5.2 Process Wastewater	6
2.5.3 Domestic Wastes	6
2.6 Air Quality (10CSR80-5.010(6))	6
2.7 Vectors (10CSR80-5.010(7))	7
2.8 Aesthetics (10CSR80-5.010(8))	7
2.9 Residue and Processed Solid Waste (10CSR80-5.010(9))	8
2.10 Safety (10CSR80-5.010(10))	8
2.10.1 Safety Policy	8
2.10.2 Safety Standards and Rules	8
2.10.3 Personal Protective Equipment	9
2.10.4 Scavenging and Salvaging	9
2.10.5 Security and Access Control	9
2.10.5.1 Security Fencing and Gates	9
2.10.5.2 Building Security	9
2.10.5.3 Parking and Storage Areas	10

2.10.5.4	Vehicle Access.....	10
2.10.5.5	Lighting.....	10
2.10.6	Fire Protection.....	10
2.10.6.1	Procedures in the Event of a Fire	10
2.10.6.2	Fire Fighting Methods	11
2.10.6.3	Water Supply.....	11
2.10.6.4	Fire Equipment.....	11
2.10.6.5	Fire Protection Training.....	11
2.11	Records and Record Keeping (10CSR80-5.010(11))	11
3.0	WASTE HANDLING AND WASTE FLOW DETAILS	13
3.1	Layout and Hours of Operation	14
3.2	Facility Shutdown and Standing Variances.....	14
3.2.1	Facility Shutdown	14
3.2.2	Standing Variances	15

FIGURES

Figure 1 – Site Layout Map

Figure 2 – Site Operations Area Map

Figure 3 – Surface Water Control Plan Map

APPENDICES

Appendix A	Waste Acceptance Protocol
Appendix B	Training Program
Appendix C	Process Flow Description
Appendix D	Housekeeping Schedule and Procedures
Appendix E	Emergency Action Plan

1.0 INTRODUCTION (10 CSR80-2.020(3)(A).1. AND 2.)

This Site Operations Plan (SOP) has been prepared for STL Land Development LLC (the Company or STL Land Development) waste processing facility located at 401 Adelaide Avenue, St. Louis, Missouri 63147 (Property), as shown on Figure 1. The Company proposes the construction and operation of a solid recoverable fuel (SRF) production facility (Facility) that will produce an alternative solid fuel that is derived from post-recycled Municipal Solid Waste (MSW).

The Project will be situated on approximately 20 acres of privately-owned land, located in the City of St. Louis, east of Interstate 70 and west of the Mississippi River. The Property is located adjacent to the existing Norfolk Southern rail line. Access to the Facility will be from Carrie Avenue from the northwest or Adelaide Avenue (by way of North Broadway) to the southeast.

The Project will divert up to 2,250 tons per day (tpd) of MSW from local landfills. The raw MSW is proposed to be delivered to the Facility by trucks operated by others. MSW will then be sorted and separated and will either be converted (at the Facility) into a solid fuel product or recycled offsite. A portion of the MSW (10% to 20%), that cannot be converted or recycled will be transported to an offsite landfill. Local municipalities and waste management service companies will provide the MSW to be used for feedstock.

This SOP has been prepared by Golder Associates Inc. (Golder) and is being submitted on behalf of the permittee. Detailed Facility design plans and specifications signed by a professional engineer that contain necessary information reflecting the proposed Facility design are included in the Application for Processing Facility Construction Permit. The SOP is intended to comply with the MDNR Solid Waste Management laws and rules.

2.0 DESIGN AND OPERATION (10CSR80-5.010)

This section addresses the requirements of solid waste processing facilities as described in 10 CSR80-5.010.

2.1 Types of Waste Accepted (10CSR80-5.010(2)(B))

Only wastes that meet Facility and state-specific waste acceptance policies are accepted by the Facility for processing. The Facility will primarily accept MSW and Single Stream Recycling collected in the City of St. Louis and surrounding metropolitan area. The MSW will be generated by both residential and commercial customers. Types of wastes accepted at the Facility for processing include:

Recyclables (approximately 10-15%)

- Corrugated cartons 14-inch plus
- Plastic polyethylene terephthalate (PET) bottles
- Plastic high-density polyethylene (HDPE) bottles
- Ferrous cans

- Other Ferrous
- Aluminum cans
- Other aluminum

Landfill Material (Approximately 10-20%)

- Polyvinyl chloride (PVC)
- Glass
- Non-Ferrous, other than aluminum
- Not otherwise defined, non-combustible

SRF Material (Approximately 45-75%)

- Mixed Paper
- Newspaper
- Plastic Film
- Dense plastic
- Textiles
- Plastic, other than PVC, PET and HDPE
- Wood
- Food waste
- Other organics
- Not otherwise defined, carbonaceous
- Fines (2-inch minus)

Types of typical unacceptable wastes received at the Facility for processing include the following:

- Radioactive materials – Entire load rejected at scale house
- Hot loads – Entire load rejected at scale house
- White goods – Local metal recycler
- Mattresses – Local Landfill
- Bulky items (bicycles, tires, etc.) – Local recycler
- Electronics (computers, monitors, TVs, etc.) – Local recycler

- Medical waste (sharps, etc.) – Stericycle
- Hazardous waste – Safety Kleen/Clean Harbors

The procedures for processing the above types of solid wastes are described in Section 3. Storage areas for accepted solid wastes are shown on Figure 2. No hot loads/radioactive wastes will be accepted by the Facility.

2.2 Satisfactory Compliance – Operation (10CSR80-5.010(2)(C))

2.2.1 Normal Site Operations and Accepting of Waste Onsite

Relevant Facility personnel are trained on the handling of acceptable and unacceptable wastes received. The waste process includes a conveyor system, magnets, electronic scanners, and continuous visual and physical inspection of incoming waste to the extent possible. In addition, each vehicle is screened for radioactivity with a RadComm RC2W34 Vehicle radiation monitor at the scale house, along with the use of a RadComm Cricket Grapple Radiation monitor on the enclosed tip floor with the aid of a RadComm hand-held Gamma Spectrometer, used by the Tip Floor Supervisor. Additional waste handling, flow and tracking detail is provided in Section 3.0.

Unloading of wastes is supervised by trained Facility personnel, and any unacceptable wastes discovered by Facility personnel during unloading of waste, or at any time, is immediately transferred to an appropriate storage container, if necessary, and moved to the unacceptable waste storage area, as shown on Figure 2. Recyclable materials are recycled as discussed in Section 2.1 above. Hot loads/radioactive waste loads are rejected at the scale house and not accepted/received at the Facility. When these materials are discovered (i.e. small sharps or medical waste or hazardous materials identified on the tip floor or conveyor), the waste is sent to Stericycle or Safety Kleen/Clean Harbors, respectively. Unaccepted waste is typically removed from the Facility within twenty-four (24) hours and will remain onsite no more than a week. The Company's Waste Acceptance Protocol is presented in Appendix A and a list of solid wastes accepted for processing is posted at the entrance to the Facility. Appropriate training is provided to employees. A list of Facility-specific training programs is presented in Appendix B. All other regulatory training and documentation is available onsite for review. Training records will be maintained through an online electronic tracking system and records can be made available as requested.

As part of normal operations, putrescible wastes will be containerized at the end of each working day and not be stored for longer than twenty-four (24) hours at the Facility. Non-putrescible solid waste that cannot be processed by the Facility will be removed from the Facility at least weekly and hauled to a solid waste processing facility or disposal area that has a permit to accept the waste. Solid waste will not be accepted by the Facility if the available storage capacity is full or the Facility is expected to be out of operation for more than twenty-four (24) hours.

After the wastes have been sorted and recyclables extracted, the remaining waste will be converted to SRF, which is a Non-Waste EPA Certified Alternative Fuel. As part of the SRF process, putrescible waste is dried and rendered non-putrescible. Waste that is accepted for processing at the end of the business day, on an observed holiday, or

during a weekend that cannot be processed or removed from the Facility within the required time due to local landfill operating schedules will be loaded to be removed and transported at the beginning of the next business day or the first business day after the observed holiday or weekend, when the landfill becomes operational again.

In the event of an unforeseen/uncontrollable circumstance (such as a natural disaster, civil disorder, etc.) that prevents the Facility from meeting the transportation and/or processing time limits, MDNR will be contacted to seek a variance. Additional information on Facility shutdown and standing variances can be found in Section 3.2.

2.2.2 Logging of Time Waste is Accepted Onsite

A process flow description is provided in Appendix C. Reporting is run out of the Solid Waste Scale Program, which keeps track of all inbound and outbound materials, minus moisture content, to demonstrate compliance with the 24-hour putrescible waste requirement and one-week requirements for everything else. The Company system records the type of waste, weight, generator information, processing information, and final recycling/disposal of all waste. Employees must be trained on the proper use of the Company system, and the importance of accurate data entry, before they may access the system. The Company Training program documentation is presented in Appendix B.

2.3 Site Selection (10CSR80-5.010(3))

STL Land Development selected the property at 401 Adelaide Avenue, St. Louis Missouri after an in-depth property search in the Metro St. Louis area. The in-depth process is detailed in the Engineering Report prepared for the construction permit application.

STL Land Development does not anticipate significant impacts caused by noise, odors, air pollutants and potential explosions or fires upon surrounding land uses. These analyses are presented in Sections 2.5 through 2.10 of this report.

2.4 Design (10CSR80-5.010(4))

This SOP for the operation of the Facility has been prepared and sealed by a professional engineer. This SOP has been submitted to MDNR for review and approval.

2.4.1 Equipment

2.4.1.1 Processing Equipment

Two separate processing lines are incorporated for system redundancy, maintenance and safety. The patent pending system design includes the following components that will be able to process and recycle MSW into SRF:

- 2 Trommels: Trommels with 8" liberate and open bags separating material <5" minus.
- 2 Glass Breakers: Glass breakers crush the glass down to a silica.
- 2 Primary Shredders: The first in line of the shredders to uniformly reduce material size to <10" minus.

- 9 Volumetric/Moisture/BTU Analyzers: Located throughout the system and provide moisture data, BTU values and tons per hour throughput. Data necessary for system to make automatic adjustments and the algorithms to instruct the optical sorter on the reduction amount of recovery to the SRF for increased BTU value.
- 3 High Gauss Drum Magnets: High Gauss removes all stainless steel down to watch/hearing aid batteries.
- 3 Eddy Currents: Recovery of aluminum cans, foil, pie tins, aluminum trays, etc.
- 6 Drum Magnets: Recovery of all ferrous metals, tin cans, door knobs, tools, etc.
- 2 3D/2D incline screens: Separation of fiber and containers.
- 2 Light/Heavy Air Separators: Primary separation of heavies, shoes, bricks, wood, etc.
- 6 Optical Sorters: Optical Sorters recover PET, HDPE (colored & natural), and PVC which is a contaminant in the SRF.
- 2 Artificial Intelligence (AI) Robotic Arms: Robotic arms recover aseptic packages and provide quality control (QC) before baling.
- 2 Secondary Shredders: The secondary shredders reduce the SRF down to a <2" minus.
- 3 Vibrating Fluidized Bed Dryers: Non-Thermal vibrating dryers reduce the moisture content in the SRF to <15%.
- 1 Material Testing Trommel: The testing trommel provides a sample every 5 minutes. If the SRF passes it gets baled. If moisture is too high or BTU's too low, material recirculates to be blended.
- 3 High Density Balers: Fast high compaction balers for PET, Aluminum, HDPE, Metal, Aseptic Package, and SRF.

2.4.1.2 *Equipment Inspection and Maintenance*

The Facility Manager is responsible for weekly inspection of equipment or the scheduled evaluation of some characteristic relative to a standard or predetermined specification. These operating specifications may be set by either the manufacturer or adjusted based on the work of a qualified service contractor. Employees are trained in the operation of the equipment program settings.

At least once annually, the Facility will calibrate the scales used to weigh waste accepted for processing or transfer and obtain certification of the accuracy of the scales from the Missouri Department of Agriculture.

Inspections of the Facility will be performed daily to ensure the identification and correction of malfunctions, deterioration, calibration errors, operator errors and incidents. Inspection records (maintained electronically or in hardcopy) will include, at a minimum, the following information:

- Date and time of inspection
- Name of inspector

- General description of housekeeping and cleanliness of the Facility
- Description of the nature of the inspection, specific equipment and structures inspected, observations made, and remedial efforts recommended or performed

2.5 Water Quality (10CSR80-5.010(5))

The Facility will discharge wastewater in accordance with the permit requirements of the City Municipal Sewer District (MSD). Facility wastewater will discharge to the existing sanitary sewer line that is adjacent to the Property. All waste processing and transfer activities will be conducted within the site building. Wastewater effluent will be evaluated, and a permit obtained if deemed necessary.

2.5.1 Storm Water

The majority of storm water from building roof tops and surface areas of the Property will drain to inlets located in outdoor areas of the Facility as shown on Figure 3. Drains flow to the onsite stormwater ponds, which ultimately discharge to the City of St. Louis municipal storm sewer system. Drainage is determined by the topography, which is shown on Figure 3. No processed or unprocessed waste is stored in this area. No unprocessed waste material will come in to contact with the storm water that drains to the ponds.

2.5.2 Process Wastewater

Surface water drains are installed throughout the processing areas and along portions of the conveyor to capture liquids and wash water. Trenches are located beneath portions of the conveyor to facilitate collection of wash water. These drains will collect liquids and run them through one of two oil-water separators prior to discharge to the MSD system. As a preventative measure to control vectors, the tip floor will be cleaned at least daily, which consists of applying an organic cleaning solution to areas that have come in contact with waste materials. The areas are thoroughly rinsed to free the work area of organic solution and water.

In the event of an accidental spillage of wastewater outside the building, the Water Protection Program will be notified immediately, and the spill will be contained and cleaned up following the Facility's spill management procedures (Section 8.5 of the Emergency Action Plan [EAP]).

2.5.3 Domestic Wastes

Domestic waste generated from restrooms and employee break areas is discharged directly into the sanitary sewer operated by MSD.

2.6 Air Quality (10CSR80-5.010(6))

Air emissions from the Facility do not cause or contribute to a condition of air pollution as defined in MDNR or applicable regulations. However, an air construction permit is required for the pollution control equipment to enforce the operation of the control equipment. The Facility is designed to be operated with adequate ventilation for odor

control and employee safety. Odor control measures will include prompt processing of incoming wastes inside building, daily housekeeping to ensure floors are swept and clear of debris, prompt removal and transport to offsite landfills of processed waste in enclosed containers.

2.7 Vectors (10CSR80-5.010(7))

The potential for vectors to occur at the site is minimal, as all waste materials are containerized coming into the site, offloaded at loading docks inside the building, and promptly processed. After processing, SRF is immediately baled for transport to end user. No waste or debris that could be an attractant to vectors is present in the SRF. If spills occur, they are immediately contained and cleaned up according to the Facility spill management procedures (Section 8.5 of the EAP). Daily inspection and cleanup as needed of floors in the waste processing area are conducted to maintain the Facility in a clean condition. In addition, the Facility maintains a contract with a third party for quarterly inspections and control measures as needed for rodent control. If indication of the presence of vectors is observed between visits, the licensed professionals from the vector control company will be contacted for issue-specific services.

The Facility's housekeeping schedule is included in Appendix D, and includes housekeeping activities including, but not limited to, the following:

- Cleaning, unloading and loading areas as spillages occur
- Litter and dust control
- Containerization of putrescible waste at the end of each day
- Routine facility cleaning
- Vector control contingency

2.8 Aesthetics (10CSR80-5.010(8))

Facility operations are performed to manage odors, dust, and noise to prevent impact to surrounding properties. Unloading, storage, and processing of solid waste is conducted within the confines of the site building and is not visible to the public.

The processing area of the Facility is cleaned throughout operating hours. Housekeeping and litter control are performed under an established schedule per Appendix D. The Facility is designed for ease of cleaning, and all operations except trucking of materials onto and off the site occur inside the building in the designated waste storage and processing areas. All site roads, parking, and vehicle maneuvering areas are paved which will minimize any dust and mud generated at the site; therefore, dust control measures are not required for this site.

2.9 Residue and Processed Solid Waste (10CSR80-5.010(9))

Processed wastes are converted to SRF and sold to end users. No wastes are disposed at the Facility. Wastes that are generated or accumulated onsite are shipped for offsite treatment and/or disposal at appropriately permitted facilities that may accept the waste.

Materials for recycling or resource recovery will be stored inside the site building or in semi-truck trailers in the parking lot to prevent vector or aesthetic problems or transported to another solid waste processing facility for further processing. Transportation of residue or processed solid waste will be by means that prevent the material from sifting, falling, leaking or blowing from the vehicle.

2.10 Safety (10CSR80-5.010(10))

2.10.1 Safety Policy

It is the policy of the Company to facilitate a safe and healthful working environment for all employees. In order to achieve the goal of a hazard-free working environment, employees and non-employees who use the Facility are required to obey the rules set forth in the safety programs or be subject to disciplinary action.

Each employee will receive initial and periodic on-going training through safety meetings supervised by management. Such meetings will cover basic subjects such as: (1) blood-borne pathogens; (2) personal protective equipment; (3) waste material container handling; (4) operation of equipment; and (5) contingency operations. Such training will include both verbal instructions and video instruction. Management has the responsibility to see that Facility practices and processes are so engineered, constructed, maintained, and operated as to provide safe and healthy conditions at all times.

Management will supervise activities to ensure the safety of all persons at the Facility through inspection, training, instruction, and remedial action. Safety will be the primary consideration during operating activities. STL Land Development shall be responsible for implementing and communicating to employees the recognized safety rules, practices, and procedures.

Individual on-off switches must control all components in the Facility processing systems, and emergency-stop switches must also be located throughout the processing lines. The Company shall conduct fire safety training in accordance with the relevant National Fire Protection Association (NFPA) standards and periodic, but at a minimum, semiannual, fire drills for all employees. Fire extinguishers located throughout the Facility shall be inspected periodically by site personnel and an outside vendor. Records of all such inspections will be retained onsite.

2.10.2 Safety Standards and Rules

The following standards and rules must always be followed by all employees of the Company. Failure to follow the safety standards and rules could result in disciplinary action against the offender up to and including termination.

Employees are urged to report to their supervisor any unsafe condition so that immediate attention can be given, and corrective action can be taken.

2.10.3 Personal Protective Equipment

Appropriate Personal Protective Equipment (PPE) is provided by the Company to each employee and is required in areas where a potential for exposure to waste exists based on Job Safety Assessments as required by OSHA and conducted by the Safety Department. PPE for different job functions are determined based on these analyses. The main criterion for determining risks and selection of PPE is ensuring compliance with all aspects of 29 CFR OSHA regulations as applicable. Facility information may be made available for review onsite. The Company will enforce the following PPE Policy:

- The use of appropriate PPE in the appropriate area shall be mandatory
- The appropriate PPE, in appropriate sizes, is readily available at the Facility or will be otherwise issued to employees
- PPE is provided, as appropriate, according to employee job descriptions
- Steel/composite toe work shoes

2.10.4 Scavenging and Salvaging

No personal scavenging or salvaging of waste materials that enter the Facility is allowed by Facility employees. Scavenging and salvaging is grounds for termination.

2.10.5 Security and Access Control

Public access to the Facility is controlled by means of a gated perimeter fence and barriers. Facility security measures are designed to prevent unauthorized vehicular traffic and unauthorized, uncontrolled waste shipments from entering the Facility, to protect the Facility and its equipment from possible damage caused by trespassers and to prevent disruption of Facility operations caused by unauthorized site entry.

2.10.5.1 Security Fencing and Gates

The Facility is surrounded by chain link fencing, which is a minimum of six feet in height.

2.10.5.2 Building Security

Each onsite building has doors and entryways that can be locked or secured to prevent access. The processing and waste storage areas in the main building are secured when the Facility is not in operation.

Entry to the waste storage and processing areas is restricted to designated personnel, approved waste haulers and properly identified persons whose entry is authorized by Facility management.

2.10.5.3 *Parking and Storage Areas*

Facility parking and storage areas are within the perimeter fenced area of the Facility. Storage trailers are monitored and kept locked when they contain waste materials staged for processing or transferring.

2.10.5.4 *Vehicle Access*

Only vehicles authorized by the Facility Manager, Facility personnel vehicles and authorized waste hauling vehicles will have access beyond the Facility entrance.

2.10.5.5 *Lighting*

The Facility contains suitable lighting throughout to aid in security.

2.10.6 *Fire Protection*

The Facility maintains a written EAP that covers incidents like spills and fires. A copy of the EAP is presented in Appendix E.

The following steps are taken by Facility personnel to prevent fires:

- Smoking is not permitted in or near any waste management area.
- Facility staff members are trained to be alert and look for signs of burning waste such as smoke, steam or heat being released from incoming waste loads.
- Equipment used to move waste materials around the Facility are cleaned and maintained regularly, according to its respective manufacturer recommended cleaning and maintenance intervals to prevent overheating or malfunction that could lead to fires.

2.10.6.1 *Procedures in the Event of a Fire*

Facility personnel will take the following steps if a fire is discovered:

- Contact the local Fire Department by calling 911.
- Alert other Facility personnel.
- Assess extent of fire, possibilities for the fire to spread, and alternatives for extinguishing the fire.
- If it appears that the fire can be safely fought with available firefighting devices until arrival of the local Fire Department, attempt to contain or extinguish the fire.
- Upon arrival of the local Fire Department personnel, direct them to the fire and provide assistance as appropriate.
- Do not attempt to fight the fire alone. Do not attempt to fight the fire without adequate personal protective equipment. Employees are familiar with the use and limitations of firefighting equipment onsite.
- Notify Missouri DNR WMP or Regional Office.

2.10.6.2 Fire Fighting Methods

Firefighting methods for burning waste include smothering the waste, separating burning material from other waste or small fires might be controlled with hand-held extinguishers.

If a fire occurs on a vehicle or piece of equipment, the driver or equipment operator will bring the vehicle or equipment to a safe stop. If safety of personnel will allow, the vehicle or equipment will be parked away from fuel supplies, processed or unprocessed wastes and other vehicles or equipment. The engine will be shut off and the brake engaged to prevent movement of the vehicle or piece of equipment.

2.10.6.3 Water Supply

The Facility is supplied water by the City of St. Louis.

2.10.6.4 Fire Equipment

The Facility is equipped with fire extinguishers of a type, size, location and number as recommended by the NFPA and local fire authorities. Each fire extinguisher will always be fully charged and ready for use. Each extinguisher is inspected on a monthly basis and recharged if found to be outside the normal operating range. A fire extinguisher will be on solid waste handling equipment per 10 CSR 80-5.010(10)(C)5. A qualified service company will perform these inspections and all extinguishers will display a current inspection tag. Inspection and recharging are performed following each use. The site building, equipment and vehicles are equipped with fully charged fire extinguishers. The Facility is equipped with a high hazard fire suppression system and a Fire Rover infra-red camera instant suppression system on the tip floor.

2.10.6.5 Fire Protection Training

Training of onsite personnel in firefighting techniques, fire prevention, response and the fire protection aspects of this SOP will be provided by established professionals on an annual basis. Personnel will be familiar with the use and limitations of firefighting equipment available at the Facility. Training records are maintained through an online electronic tracking system and records can be made available as requested.

2.11 Records and Record Keeping (10CSR80-5.010(11))

Records and monitoring are maintained covering:

- The actual or estimated quantity of solid waste received on each day.
- Major operational problems, exception reports, complaints or difficulties.
- Vector, odor, dust, and litter control efforts.

Tracking documents, operating records, test results and process monitoring records pertaining to waste will be kept for a period of at least three years (either hard copy or electronically). These records will be made available for

inspection by MDNR upon request. A Daily Solid Waste Record shall be maintained (electronically) at the Facility which will include the day of the week, date, Facility name, permit number and address, total amount of waste received/transported, day the waste was transported from the Facility, name of the individual or company transporting the waste (if different from the Facility), name and address of the disposal area to which the waste is transported, and the weight of the waste. If an unacceptable load is received at the facility, the appropriate information will be recorded, including but not limited to: the transporter name, address, ID if applicable, type of unacceptable waste, date, etc. Daily housekeeping is also documented, and details regarding housekeeping are presented in Appendix D (maintained either hard copy or electronically).

3.0 WASTE HANDLING AND WASTE FLOW DETAILS

The corporate waste tracking procedures state that material will be scaled through designated inbound and outbound scales. All inbound waste route trucks will have a preprogrammed average tare weight, by truck number, entered into a Solid Waste & Recycling industry designed software, such as Waste Works. The following procedures will then be followed:

- Inbound loaded MSW route trucks enter the scale and digitally input a company number and the truck number.
- The company number identifies the supplier and truck number provides the preprogrammed tare weight, time in and weather conditions at time of weigh-in.
- Route truck unloads on the tip floor and proceeds to the outbound scale.
- At the outbound scale the driver enters in the truck number and receives the gross, tare and net of the scale ticket and weather conditions for moisture and time out.
- Outbound commodity trailers are received empty with a release number from the customer.
- Bills of Lading are completed with commodity type, number of bales, release number, customer name, destination, along with gross, tare, and net of the outbound truck.
- Daily receiving reports are generated, detailing each inbound MSW truck, supplier and delivery trends.
- Daily shipping reports are generated with all outbound commodity and residual materials. Detailing customer, trucking company, trailer/tractor #, gross/tare and net of each outbound truck.
- Weekly reconciliation reports are derived from the scale software on all inbound and outbound materials and their origination and destination.

Waste enters the Facility via trucks operated by others, which deliver the waste to the tip floor. Analyzers are located throughout the system to provide real-time moisture content, density, throughput, and other data to the Facility tracking program. Tip floor management begins with the waste being inspected by a Facility operator using a hydraulic excavator to remove large items that could damage the system and loading the remaining waste into the drum feeder. The drum feeder opens bags and allows consistent and rapid feeds of waste into the system. The trommels further shred the bags and begin fractional separation by particle size. The waste is then hand-sorted to separate the clean cardboard, bulky plastics, and metals, as well as any objectional items, which are removed from the system to prevent damage to any equipment. The primary shredder cuts the waste into 10" pieces, and the material goes through multiple magnet and eddy current sorting processes which remove the metals to eliminate SRF metals contamination. The materials then go through an additional sorting process to separate the papers and plastics and separate the fiber from containers and discharge non-recyclable items. PET and HDPE containers are recovered, and the remainder of the material then goes to the secondary shredder, which shreds the material into pieces less than 2 inches before sending it to the dryer which reduces the moisture content to less than 15%

moisture. The SRF is then tested for BTU value, chlorine, mercury, and metal content. If the SRF passes the testing, it is transferred to the baler, otherwise it is re-circulated. All recovered containers are cleaned with an odor-controlled misting process that tumbles all containers to remove residue and cleans the containers to improve quality and remove odors. All recycled commodities and SRF get baled on dedicated balers and prepared for customer shipment. A detailed process and equipment description is provided in Appendix C.

3.1 Layout and Hours of Operation

A layout of the Facility is provided in Figure 1. Improvements include perimeter fencing and a controlled lockable gate; paved and lighted parking and storage areas; and the main building, which houses administration offices, waste tipping floor and storage, handling and processing equipment. A layout of the operational area is provided in Figure 2.

The Facility is authorized to operate twenty-four (24) hours per day, seven days per week throughout the calendar year. The Facility typically accepts waste from Monday through Saturday, except for major holidays, and treatment is performed continuously throughout the day Monday through Friday until all waste accepted that day has been processed. The last loads of waste processed each day are the first loads transported offsite for recycling/disposal the following morning, in accordance with the time limits described in Section 2.2.

The Facility will operate 24 hours per day, divided into three shifts. Established receiving hours will be influenced by municipal route truck operating hours and is estimated to be from 6:00 A.M. to 7:00 P.M. Waste on the tipping floor will be processed or containerized by 5:00 A.M. the following morning (typically by 10:00 P.M. that same day), and the tipping floor will be cleaned prior to the start of receiving waste again at 6:00 A.M. the following day.

3.2 Facility Shutdown and Standing Variances

3.2.1 Facility Shutdown

Waste is stored in its respective containers, in transporting vehicles, in approved storage areas within the building, or within storage trailers onsite should the Facility experience any conditions which would threaten its ability to process waste.

Should the Facility anticipate or experience a shutdown for more than twenty-four (24) hours, the MDNR will be notified of the shutdown, the reason for the shutdown, temporary waste diversion plans, and expected resumption of operations. Arrangements would be made to divert incoming waste to an alternate facility approved to handle the wastes.

In the event of any unforeseen/uncontrollable circumstance (such as inclement weather, a natural disaster, civil disorder, major equipment malfunction, etc.) that prevents the Facility from meeting the transportation and/or treatment time limits, or results in an unplanned Facility shutdown, MDNR will be contacted to seek variance. Every effort will be made to process and remove waste within the time limits discussed in Section 2.2.

3.2.2 Standing Variances

There are currently no regulatory variances for this Facility.

Signature Page

Golder Associates Inc.



Christopher M. Redington
Associate



Amanda W. Derhake, Ph.D., P.E.
Associate

CMR/AWD

Figures

APPENDIX A

Waste Acceptance Protocol

Waste Acceptance

- Residential municipal solid waste accepted from approved haulers only. Public drop offs are not accepted
- Commercial Waste accepted from approved locations only.
- Residential recycling accepted from approved haulers only.
- Public recycling drop offs are not accepted.

Prohibited Materials

- Radioactive Waste
- Hazardous Waste
- Green Waste
- Tires
- Mattresses
- White Goods
- Electronic Waste
- Pressure Treated Wood
- Medical Waste
- Special Waste

APPENDIX B

Training Program

Company Training Program

Forklift Operators: 3rd party forklift training and safety training will be provided by the supplying dealership. Training would come from a potential Crown Forklift dealership, where they provide OSHA compliant forklift training and certification. Forklift certification and training will be done annually. Forklift safety program will be conducted quarterly.

Excavator/Front Loader/Skid Steer Operators: 3rd party training and safety training will be provided by the supplying dealership. Training would come from a potential Caterpillar dealership or heavy equipment trade school, where they will supply OSHA compliant training and certification. OSHA certification will be done annually along with a quarterly safety training.

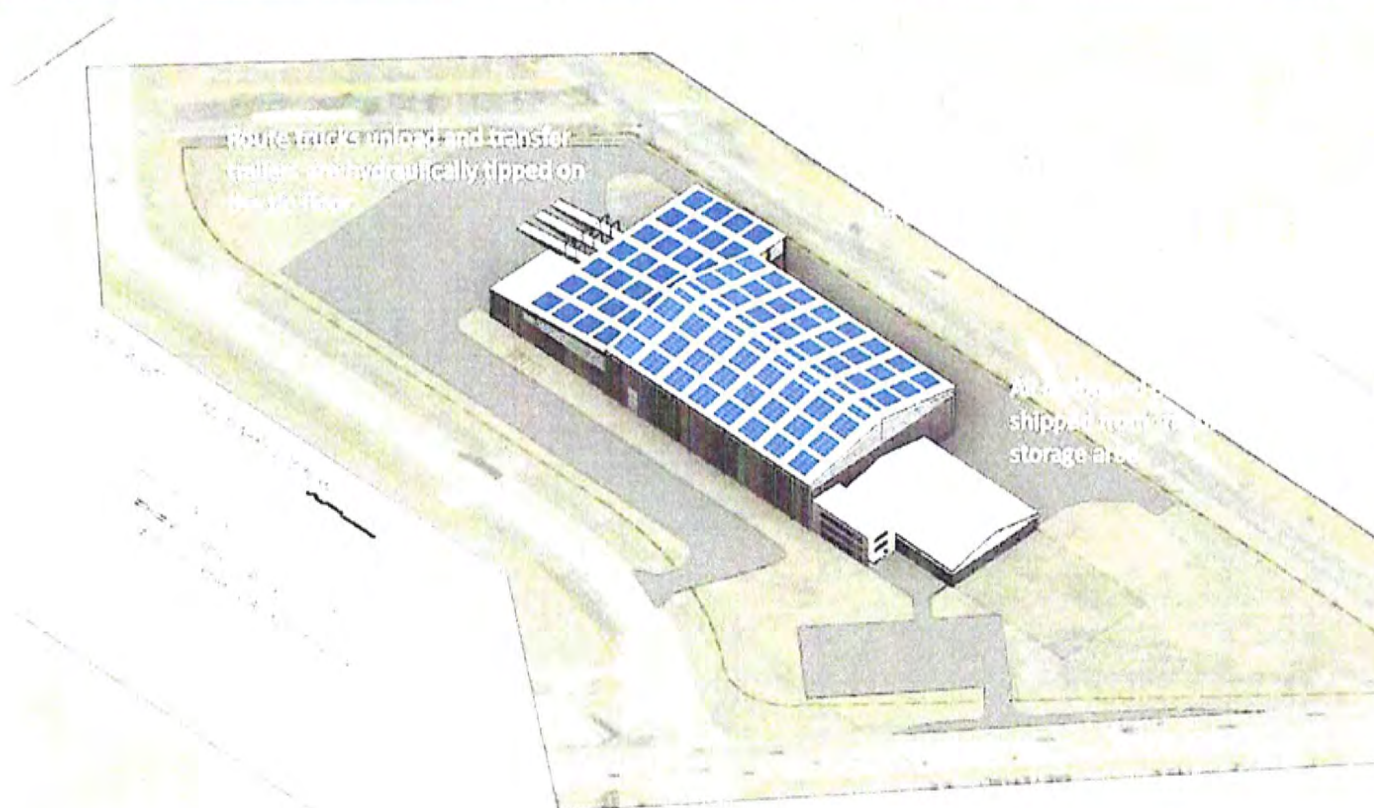
Yard Truck Spotters: 3rd party CDL training through an accredited CDL training school like Saint Louis Community College offers. Annual CDL certification and training. Monthly safety meetings.

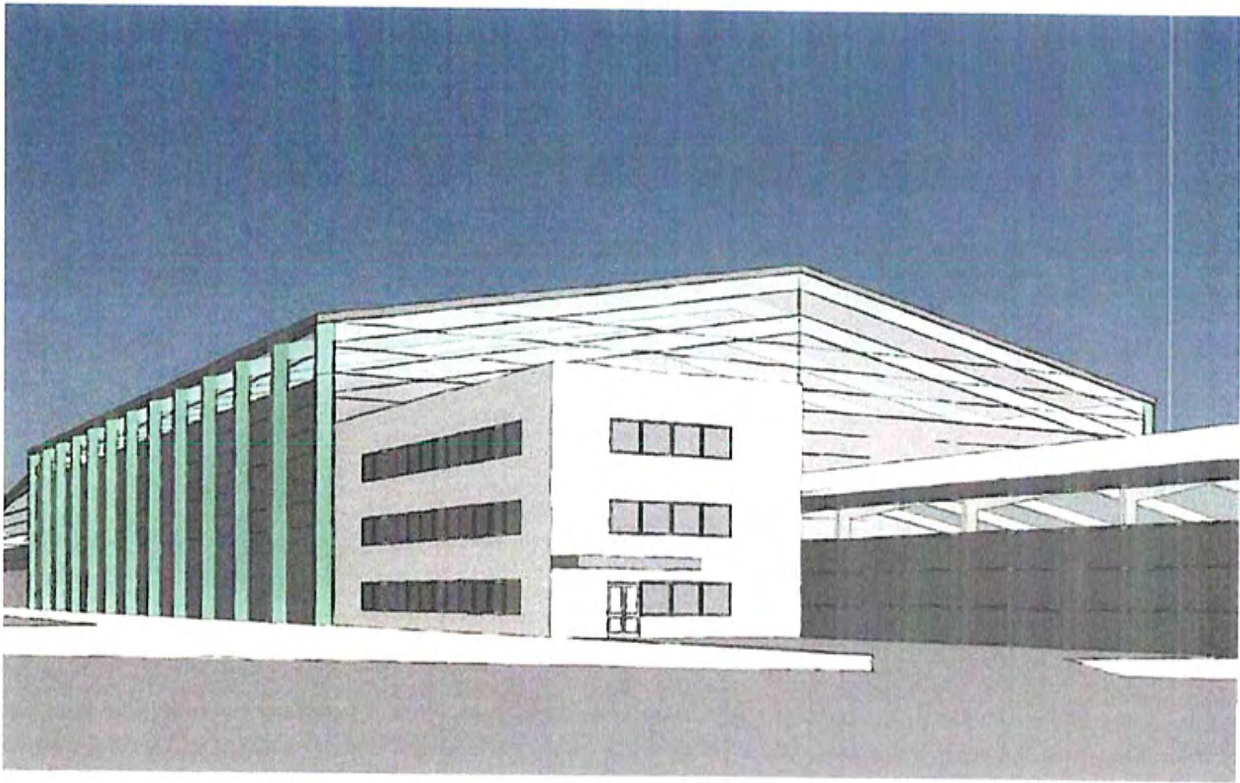
Platform Sorters: Training provided by the equipment manufacturer and outlined in their sorter responsibility chart. Monthly safety and training meetings are required.

APPENDIX C

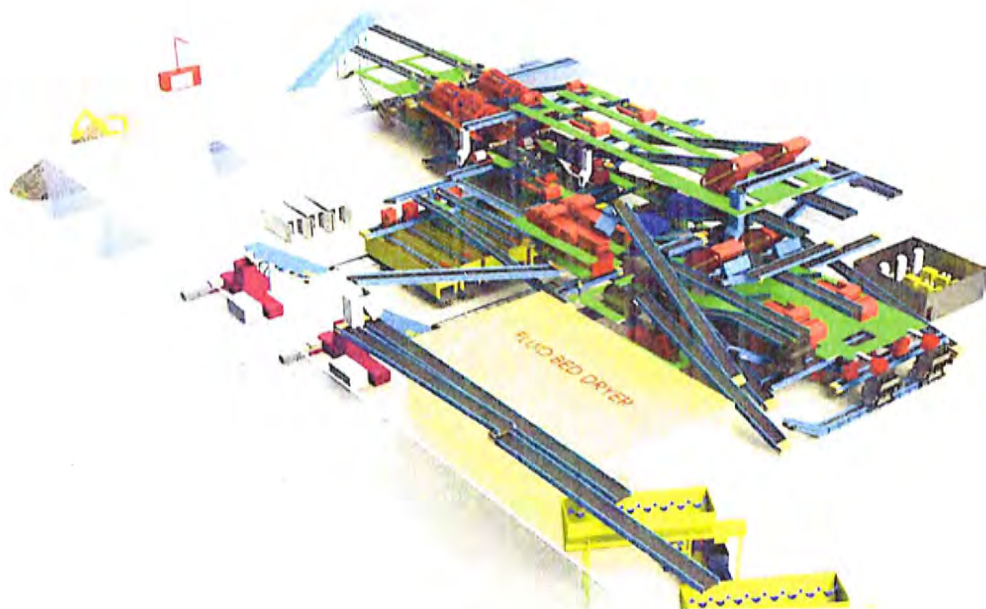
Process Flow Description

St. Louis State of the Art Recycling Centers





3D St. Louis Equipment Layout (A)



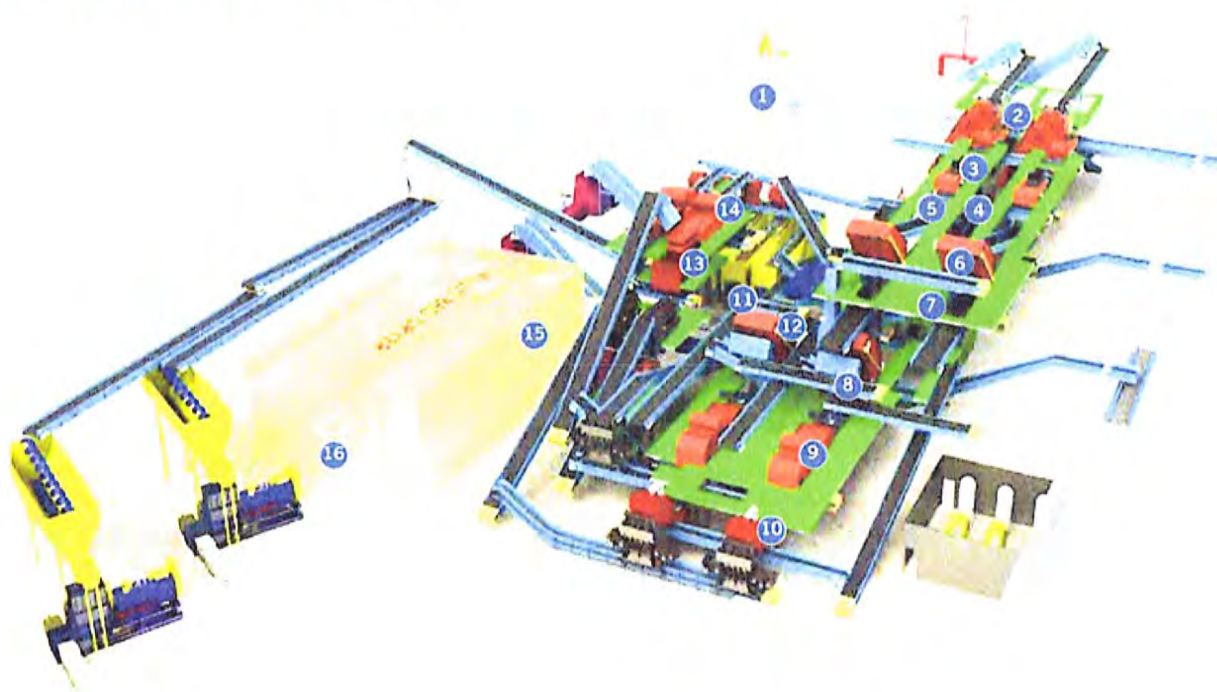
3D St. Louis Equipment Layout (B)



3D St. Louis Equipment Layout (C)



Site Description- System (Continued)



St. Louis System Components



1 Tip floor management begins with a Hydraulic Excavator inspecting the MSW and removing large items that can damage the system. Excavator loads the Drum feeder. Drum Feeder with Metering wheel starts liberating materials by opening bags that allows for consistent and rapid feed



2 6 BTU and Volumetric Analyzer's are located throughout the system providing real time moisture content, density, thru put, BTU value for system corrections and data collection for the SCADA program



3 Trommels with 16" pyramidal design fixed knives rip open bags and liberate materials to then start important fractional separation <6" minus go through the trommel holes and large items continue to the Pre sort area. Using a Trommel prior to the pre sort area is a Safety Precaution to lower the burden depth for Sorters visual improvement and safety



4 Overs from the trommel go thru a Pre Sort where only clean cardboard, Bulky Plastics and Metals is hand sorted for quality assurance and the removal of any objectional items that should not be introduced into the system for damage prevention



5 Primary Shredder makes the first cut at 10" creating uniformity allowing for better separation and higher recovery rates



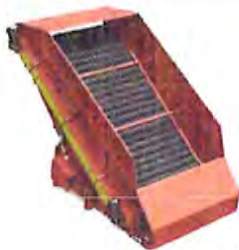
6 Material goes thru multiple maintenance free deep draw drum magnets for steel cans and mixed ferrous metals, High Gauss magnets for Stainless Steel and an Eddy Currents to recover all Aluminum. Important for recovery and eliminate SRF metals contamination



St. Louis System Components



- 7 2D/3D polishing screen starts paper/ plastic separation. Paper rides over the top and 3D containers roll back while removing <2" minus fines



- 8 Heavy/Light air separation further separates fiber from containers and discharges non recyclable items and sends containers to the optical sorters



- 9 A series of Optical Sorters with NIR + Color technology will recover PET-HDPE containers. The opticals are used to eliminate PVC contamination in the SRF along with the Algorithm that allows the optical to pass on plastics to increase the SRF BTU value



- 10 Quality Control -AI Robotic arms are used as a highly effective way to create the cleanest, most consistent sellable PET- HDPE plastics while capturing Labor and Safety benefits.



St. Louis System Components



11 Secondary Shredder receives all materials and reduces to <2" minus creating the SRF. Durability built in as the Primary shredder and Secondary shredder parts are interchangeable.



12 Non-Thermal Vibrating Fluidized Bed dryer reduces moisture content of the SRF to <15% and minimizes emissions passing through a carbon filtered bag house



13 SRF testing- BTU value, Chlorine, Mercury & Metal content. If passed, goes on to the baler. If SRF does not meet a spec, material is re-circulated. In real time, the Algorithm will allow opticals to reduce their capture rate and allow extra plastic go into the SRF to boost BTU value



14 Rocket Washer- All recovered containers get cleaned with a Oder controlled misting process that tumbles all containers removing residue and cleaning containers to improve quality and remove any odors. Going thru a Rocket Washer ensures high quality recyclables



15 All recovered commodities and the SRF get baled on a series of dedicated balers and ready for customer shipments.



16 Control room constantly monitors the system in real time with the ability to change belts speeds, screen angles along with data maintenance controls and maximizing operation run times and safety



APPENDIX D

Housekeeping Schedule and Procedures

House Keeping Schedule

	Daily	Weekly	Monthly	Description
Cleaning Unloading and loading areas as spillage occurs	X			* Remove all debris and relocate to tip floor
Baler room and bale storage areas	2X			* Bale storage area swept after each bale row is loaded * Baler room must be kept clean and baler blown down before during and end of shift
Processing Floor Litter and Dust control	2X			
Tip Floor cleaning, misters serviced and odor control cartridges checked	X			* Rinse area * clean drains , covers and grates * Refill odor control misters * check odor control cartridges.
Sorters Platform area cleaning * Refer to downtime management instructions in the sorter responsibility chart for additional cleaning instructions	2X			* Brush down railings in your area * Sweep platform * place all debris on the conveyor * Use local air drop to blow down your area
Locker rooms- Breakrooms- Offices - Common areas	X			Refer to 3rd party cleaning company for daily checklist
Removal of Petrucible waste	X			* excess waste <2" minus not captured in the system will be loaded out and destined to landfill
Outside Facility Cleaning	X			Outside Clean team to * collect all loose blown materials along the fence line * collect all loose material from plantings and around the building
Bag House/dust control cleaning	X			* Empty tip cart with dust residual "hockey pucks" and place on the tip floor * Purge and test filters
Street Sweeping	2X			* Property roadways, access points, trailer storage area, maintenance area, parking lots will be swept via an automatic street sweeper, minimally before each shift ends. * Depending on wind and weather conditions, additional street sweeping will be done as necessary.
Yellow Iron & Forklift cleaning	2X			* Lock out equipment * Blow down equipment * Wipe down any residual oil areas * Complete Pre Trip and Post Trip inspection report * Provide inspection reports to Maintenance supervisor daily by shift
Maintenance shop cleaning	X			* Maintain a clean and oil free shop floor * Blow down liquid storage area * Remove debris * Rinse drains, covers and grates as necessary
3rd Party Yellow Iron & Forklift Steam cleaning		X		* Refer to 3rd party steam cleaning techniques and cleanup procedures
Conveyor pits cleaning		X		* Lock out conveyors * Remove pit plates * turn on convenience lighting * shovel any debris and place on top of conveyor * Rinse drain cover and grates
Process system cleaning		X		* Refer to 3rd party steam cleaning company for check list
Landscape cleaning/maintenance		X		* Refer to 3rd party mowing, trimming and maintenance check list
Tip Floor power washing		X		* Power wash with Organic solution * Rinse floor * clean drain covers, grates and power flush drains
3rd Party Vector Control			X	* Refer to 3rd party checklist for established Vector Control plan
3rd Party Solar roof panel cleaning			X	* Refer to 3rd party checklist for maintaining solar efficiencies
Scale cleaning			X	* Sweep scale area * Blow down all scale parts and accessories. * Clean all scale mirrors * Clean traffic lights on scale * Wipe down radiation detector side panels (Refer to Manufacturer cleaning guidelines)

APPENDIX E

Emergency Action Plan



Emergency Action Plan

**STL Land
Development LLC
401 Adelaide Ave**

St . Louis , Missouri 63147

BE PREPARED!

The personal safety of everyone who works in this building depends on each employee being prepared to make intelligent decisions if an emergency occurs.

It is the purpose of this Emergency Action Plan is to identify potential hazards and briefly outline possible procedures to follow.

This Plan is intended for the use of all building employees and occupants. However, because this has been kept simple and concise, you should understand that its contents are only guidelines for actions. It has not been designed to cover every set of circumstances; good common sense in an emergency is still required from our leaders.

Emergency Action Plan

TABLE OF CONTENTS

1.0 FACILITY INFORMATION

1.1 FACILITY DESCRIPTION

1.2 RESPONSIBLE OFFICIAL AND CONTACT

1.3 LOCATION

1.4 SITE AND ENVIRONS

2.0 INTENT AND REGULATORY INFORMATION

3.0 RESPONSIBILITIES

4.0 TRAINING

5.0 EMERGENCY EVACUATION ROUTES/PROCEDURES

6.0 ON-SITE ALARM

7.0 MEDICAL TREATMENT AND RESCUE PROCEDURES

8.0 EMERGENCY CONDITIONS-RESPONSE & REMEDIAL ACTIONS

8.1 FIRE AND EXPLOSIONS

8.1.1 BUILDING AND SITE

8.1.2 HOT LOADS

8.2 WEATHER RELATED EVENTS

8.2.1 TORNADO

8.2.2 INTENSE THUNDERSTORMS

8.2.3 FLOODING

8.2.4 WINTER STORMS

8.3 EARTHQUAKES

8.4 UTILITIES FAILURE

8.4.1 NATURAL GAS

8.4.2 ELECTRICITY FAILURE

8.5 SPILLS AND RELEASES

8.5.1 HAZARDOUS SPILLS AND RELEASES

8.5.2 FUELS / OILS

8.5.3 OFF-SITE RELEASES

Emergency Action Plan TABLE OF CONTENTS

8.0 BOMB THREATS

APPENDICES

APPENDIX A	EMERGENCY EVACUATION SITE MAP
APPENDIX B	SITE MAP OF EMERGENCY EQUIPMENT
APPENDIX C	EMERGENCY CONTACT LIST
APPENDIX B	BOMB THREAT PHONE CHECKLIST

Emergency Action Plan

1.0 FACILITY INFORMATION

1.1 FACILITY DESCRIPTION

Residential and Commercial Municipal Solid Waste Recycling and Processing Center

1.2 RESPONSIBLE OFFICIAL AND CONTACT

Chief Executive Officer – **Ryan Bird**

Emergency Action Plan Administrator - **Ryan Bird**

1.3 LOCATION

**401 Adelaide Ave
St. Louis, Missouri**

1.4 EMERGENCY EVACUATION SITE MAP

The EMERGENCY EVACUATION SITE MAP provides the location of emergency evacuation routes, Tornado Shelter, and emergency assembly point. Employees should be familiar with both the evacuation routes and the emergency assembly point (Appendix A).

2.0 INTENT AND REGULATORY INFORMATION

This Plan is intended to:

- Establish procedures to minimize the potential for casualties and injuries in the event of an emergency.
- Identify personnel that are responsible for decision when an emergency arises.
- To exceed the requirements set forth in 29 CFR 1910.38.

3.0 RESPONSIBILITIES

Emergency Coordinator – The Emergency Coordinator is a New Planet employee at the facility with the responsibility for implementing and supervising all emergency response measures. The emergency coordinator shall be familiar with all aspects of the operational activities on-site, the location and characteristics of materials on-site,

the location of records within the facility, the facility layout, and all aspects of the emergency response plan. The emergency coordinator has the authority to commit any and all necessary resources and personnel to fully implement the emergency action plan. The Emergency Coordinator has the primary responsibility for responding to an emergency situation and determining the appropriate response actions. This includes taking measures to insure the safety of site personnel and the general public. Possible action may involve the evacuation of occupants of adjacent buildings. The Emergency Coordinator will act as the primary point of contact with all outside agencies and/or emergency responders. Furthermore, he or she is responsible for ensuring that corrective measures have been implemented, appropriate authorities notified, and follow-up reports completed. An alternate may be called to act in the capacity of the emergency coordinator. If an alternate is designated, all responsibilities within this plan are assumed by the alternate.

The Emergency Coordinator for this facility is:

Name: Ryan Bird

Title: CEO

Alternate Emergency Coordinator - Employee(s) at the facility who is given the responsibilities of the emergency coordinator if required during an emergency situation.

The Alternate Emergency Coordinator(s) for this facility is(are):

Name: Ryan Bird

Title: CEO

Notifier - Additional employee(s) at the facility who have been designated to assist the Emergency Coordinator in implementing the evacuation procedures.

The Notifier(s) for this facility is(are):

Name:

Title:

Name:

Title:

Name:

Title:

Name:

Title:

4.0 TRAINING

All employees will receive training and instruction regarding the provisions of the emergency action plan. This training shall take place once an employee is hired, before regular duties are assumed, and annual training shall be done for all employees at the district. This training will include: training on the lines of authority, communication systems, evacuation routes, the employee's role and responsibilities

within the plan, potentially hazardous conditions associated with operations at the district, and other potential emergency that might take place at the district.

In addition, a mock emergency response drill will be conducted annually to assess the plan's effectiveness and to determine whether any modifications are necessary to further ensure the effectiveness of this plan. Outside agencies such as the fire department or local emergency planning committee may be invited to participate in these drills.

5.0 EMERGENCY EVACUATION ROUTES/PROCEDURES

Appendix A provide maps depicting evacuation routes for all building and immediate area. Emergency Assembly Point(s) are shown on evacuation route maps. Maps are to be posted in conspicuous location within the facility showing each area closest exit and route to egress points.

In the event of an emergency, which necessitates an evacuation of the site, a verbal warning will be issued using the public address system. Personnel will be instructed to proceed to the nearest exit and assemble in the designated gathering area assigned for the evacuation route. Personnel will remain at that area until the re- entry announcement is given, or an authorized individual provides further instructions. The Emergency Coordinator or his/her designee shall perform a head count and roll call to determine that all personnel have evacuated the facility. The roll call and head count will be checked against employee time cards or roster to insure an accurate accounting of all personnel.

Any employees that must remain to operate or shut down equipment after an evacuation is ordered will receive specific training on proper shutdown procedures and when it is safe and/or required for them to evacuate regardless of shutdown requirements. Also, any employee that must remain for a time period must be instructed to do so by a supervisor and it is the supervisor's responsibility to communicate the location and status of the employee to the Emergency Coordinator.

Visitors

- Visitors must sign in with identification at the front desk.
- Visitors will be given a pamphlet outlining facility safety with Audible Alarms, Personal Protection Equipment and Gathering Point in case of an emergency.

6.0 ON-SITE ALARM

In the event that the facility must be evacuated either partially or completely, a brief announcement will be read over the intercom system. The emergency coordinator will determine the announcement. Instructions will vary depending upon the nature of the emergency. All announcements will include the nature of the emergency and evacuation instructions.

7.0 MEDICAL TREATMENT AND RESCUE PROCEDURES

First-Aid stations, which can provide basic emergency medical care for individuals who maybe injured on-site, are available at known locations within the facility. At least one (1) of every ten- (10) employees should receive First Aid training on an annual basis. In addition, in an instance where only two employees are working on a shift, both employees will receive First Aid training on an annual basis. All site personnel are to be instructed on the route to the hospital. Emergency phone numbers are posted throughout the facility if assistance should be required. The location of all first aid supplies, eye wash station(s), emergency showers, etc. is shown on the Site Map of Emergency Equipment (Appendix B).

No site personnel have been assigned any specific medical or rescue duties. It is expected that employees will use common sense and call immediately for outside professional assistance if a serious injury has occurred. During a medical emergency, employees may perform necessary basic life saving techniques (CPR, stopping blood flow, moving a victim to a safe place) if it does not pose a threat to them or other employees. However, no employee is required to perform any of these functions. As with all emergencies, the District or Site Manager and Emergency Coordinator should be informed immediately.

8.0 EMERGENCY CONDITIONS-RESPONSE & REMEDIAL ACTIONS

8.1 FIRE AND EXPLOSIONS

In case of any size fire, the following individuals must be contacted:

- General Manager – See Appendix C contact information
- Emergency Coordinator - See Appendix C contact information
- Fire Rover Coordinator- See Appendix C contact information
- Missouri DNR Waste Management Program or Regional Office

8.1.1 BUILDINGS AND SITE

SMALL LOCALIZED FIRE – BUILDING OR OFFICE

- Caution: A small-localized fire can engulf a room in less than 60 seconds.
- Act quickly. Smoke can be very dangerous.
- Use a fire extinguisher to extinguish the flame, shoot at the base of the flame.
- Remove nearby flammable materials such as paper, drapes, rags, etc.
- Evacuate all unnecessary personnel – go to the Emergency Assembly

Point.

UNCONFINED FIRE – BUILDING OR OFFICE – General

- Get out of the building. Familiarize yourself with the evacuation plan (Appendix A)
- Go to the Emergency Assembly Point (See Appendix A).
- Take roll call of all employees and visitors using a roster of present personnel.
- Immediately call the fire department, using a mobile phone. See Appendix C for contact information.
- Never go back inside a building for any reason.

8.1.2 HOT LOADS/ RADIOACTIVE WASTE

SMOLDERING OR IGNITED FIRES – IN A VEHICLE

- “Hot Loads” are loads of waste or vehicles that are smoking, smoldering or are on fire. “Hot Loads” may arrive at the facility without the driver aware of the risk.
- Do not dump hot loads on top of exposed waste of any kind.
- Do not stop a truck on fire or containing a hot load near a building.
- Quickly alert the driver and direct the truck toward a safe area.
- Call the Fire Department. See Appendix C for telephone numbers.
- A load must be dumped without harming the driver or others. Dump the load in a safe area.
- Caution: A fire may spread quickly or “flash” as air is introduced.

Radioactive Waste

- Detected at the scale house: Security must notify Emergency Coordinator for proper paper work and refusal to accept the vehicle.
- Detected on the Tip Floor: Grapple radiation monitor notifies tip floor supervisor.
- Supervisor removes radioactive waste from tip floor, notifies the Emergency Coordinator.

8.2 WEATHER RELATED EVENTS

8.2.1 TORNADO

Tornado Terminology:

- Tornado Watch - Tornadoes are possible.
- Tornado Warning – A tornado has been sighted or indicated by weather radar.

TORNADO WATCH PROCEDURES:

- Watch the sky and listen to updates on the radio, television, or internet for up to date information.
- Locate emergency supplies such as battery-powered radio, mobile telephone, and spare batteries.
- Be prepared to take shelter in the designated tornado shelter (see Site Plan Map).
- If you see any revolving funnel-shaped clouds, report them immediately by telephone to your local law enforcement agency.
- If you are in a trailer or similar structure, this is the time to move to a more secure structure.
- Use all available information sources to keep up to date on all potential severe weather.

TORNADO WARNING PROCEDURES

- Have all employees report to the tornado shelter with a battery-powered radio and if possible, a mobile phone. Take shelter in area(s) designated tornado shelter or an interior room or hallway.
- The facility's Tornado Shelter is located on the Site Plan Map (See Appendix A).
- If you cannot reach the Tornado Shelter, go to an inside hallway on the lowest level. Avoid places with wide-span roofs. Stay away from windows and open spaces. Get under a piece of sturdy furniture such as a workbench or heavy table or desk and hold on to it.
- Stay in shelter until the local authorities say that the danger has passed.

TORNADO SAFETY - OUTDOORS

- If possible, get inside a substantial building.
- If shelter is not available or there is no time to get indoors, lie in a ditch, culvert, or low-lying area or crouch near a strong building. Use your arms to protect your head and neck. Be alert for potential flash flooding.

TORNADO SAFETY – IN A VEHICLE

- Never try to outrun a tornado in a vehicle. Heavy rain, hail, and traffic make it unsafe to operate a vehicle. Tornadoes can change directions quickly and can easily lift a vehicle and toss it through the air.
- Pull to the side of the road avoiding trees, power lines and other objects that could fall or be hazardous.
- Get out of the vehicle immediately and try to take shelter in a shelter in a nearby building.
- If there is not time to get indoors, get out of the vehicle and lie in a ditch, culvert, or low-lying area away from the vehicle. Use your arms to

protect your head and neck.

PROCEDURE AFTER A TORNADO

- Try to get out of damaged buildings. Once out, do not re-enter unless necessary. Use great caution. If you cannot exit safely call for help.
- Extinguish all smoking and small fires.
- Monitor the radio or television for emergency information or instructions.
- Go to the Emergency Assembly Point (see the Site Plan Map in Appendix A). Account for all New Planet- STL personnel and known guests/customers/contractors.
- Check for injured victims. Render first aid if necessary. Call the necessary emergency responders such as ambulance services or fire/rescue service if necessary.
- Do not attempt to move severely injured victims unless necessary. Wait for emergency medical assistance to arrive.
- Look out for broken glass.
- Look out for and report downed power lines.
- Use the telephone only for emergency calls. Telephone lines may be down. Mobile telephone service may be used for emergency calls.
- Take photos or videotape of the damage to property.
- If driving, be alert for hazards in the roadway.
- If unaffected by the tornado, stay out of the damaged area until allowed in by officials, your presence may hamper emergency operations.
- Check for gas leaks. If you smell gas or hear a blowing or hissing noise, open a window and quickly leave the building.
- Turn off the gas at the outside main valve if you can and call the Gas Company from a cellular telephone or a telephone away from the affected property. If you turn off the gas for any reason, it must be turned back on by a professional.
- Look for electrical system damage within the building—If you see sparks or broken or frayed wires, or if you smell hot insulation, turn off the electricity at the main fuse box or circuit breaker.
- See Appendix C for Emergency Contacts.
- Check bulk fuel and solvent storage areas; if a spill/leak exists, attempt to stop the leak/spill or absorb fuel/solvents with inert materials.

8.2.2 INTENSE THUNDERSTORMS

Thunderstorm Terminology:

- Micro Burst – a strong out rush of wind formed by rain cooled air. Strong down bursts, which produce extensive damage, and are often mistaken for tornadoes.

- Severe Thunderstorm Watch – A severe thunderstorm (damaging winds 50 miles per hour or more, or hail three-fourths of an inch in diameter or greater) is likely to develop.
- Severe Thunderstorm Warning – A severe thunderstorm has been sighted or indicated by weather radar.

THUNDERSTORM WATCH PROCEDURE

- Watch the sky and listen to updates on the radio, television, or internet for up to date information.

THUNDERSTORM WARNING PROCEDURE

- Go to an interior room away from windows, or the designated tornado shelter.
- Turn on a battery-operated radio or television and wait for the “all clear” by the authorities.
- Tornadoes are spawned by thunderstorms and flash flooding can occur with thunderstorms. When a “severe thunderstorm warning” is issued, review what actions to take under a “tornado warning” or a “flash flood warning.”

PROCEDURE AFTER A THUNDERSTORM INVOLVING LIGHTING

- Check personnel, guests, clients, and contractors for injuries.
- Report downed utility wires.
- Continue to watch the sky and listen to updates on the radio, television, or internet for up to date information.

Lightning Strike Victim

- If the victim is burned, provide first aid and call emergency medical assistance immediately. Look for burns where lightning entered and exited the body.

8.2.3 FLOODING

Flood Terminology:

- Flash Flood Watch – A flood is possible, be alert to signs of flash flooding, and be ready to evacuate. Know the local terrain; flash floods can happen more quickly in hilly terrain or low-lying areas.
- Flash Flood Warning – A flood is already occurring and will occur soon in your area, listen to local radio and television for local information and advice.

FLOOD DAMAGE PREVENTION PROCEDURES

- Move key documents, electronic files, computers, etc. to higher ground to take them with you if you must evacuate.
- Review evacuation procedures with employees.
- If necessary, attempt to build earthen dams to protect buildings and property.
- Keep up to date on current conditions using radio, television, or internet.
- If told to leave by local authorities, do so immediately.

PROCEDURES DURING A FLOOD

- Evacuation may be necessary. If advised to evacuate, do so immediately.
- Never drive into a flooded area.
- Never drive around road barricades.
- Listen to a radio, television, or the internet for evacuation instructions.
- Follow recommended evacuation routes – shortcuts may be blocked.
- Leave early enough to avoid being marooned by flooded roads.

Procedure If Off-Site or On-Route:

- Climb to high ground and stay there.
- Avoid walking through any floodwaters. If it is moving swiftly, even water 6 inches deep can sweep you off your feet.
- Never drive into a flooded area.
- Never drive around road barricades.
- If you come to a flooded area, turn around and go another way.
- If your vehicle stalls, abandon it immediately and climb to higher ground. Many deaths have resulted from attempts to move stalled vehicles.

Procedures after a Flood:

- Return to the area only after it has been declared safe by local emergency management officials. Follow all emergency rules, laws and regulations.
- Report and stay clear from loose power lines or damaged utilities.
- Report downed power lines to your utility company or local emergency manager.
- Some appliances, such as television sets, can shock you even after they have been unplugged. Do not use appliances or motors that have gotten wet unless they have been taken apart, cleaned and dried.
- Be alert for gas leaks. Use a flashlight to inspect for damages. Don't smoke or use candles, lanterns or open flames unless you are sure that

- the gas has been turned off and the area has been aired out.
- Look for fire hazards – broken or leaking gas lines, flooded electrical circuits, submerged furnaces or electrical appliances, flammable or explosive materials coming from upstream.
- Service damaged septic tanks, cesspools, pits, and leaching systems as soon as possible. Damaged sewage systems are health hazards.
- Address any large areas heavily affected by erosion immediately if they pose a hazard to life, health, or environment.
- *Check bulk fuel and solvent storage areas for potential hazards.*

8.2.4 WINTER STORMS

Winter Storm Terminology:

- Winter Storm Watch – Indicates that severe winter weather may affect your area.
- Winter Storm Warning – Indicates that severe winter weather conditions are on way.
- Blizzard Warning - Indicates that large amounts of falling or blowing snow and sustained winds of at least 35 miles per hour are expected for several hours.

Winter Storm Procedure:

- It will be the decision of the General Manager or the Plan Administer to dismiss employees early.
- Management should keep up to date on all winter storms to make an informed decision as to dismissing employees to avoid the possibility of having to require employees shelter in place.

8.3 MASS MOVEMENT OF LAND AND WASTE

8.3.1 EARTHQUAKES

During an Earthquake

- Employees should shelter in place. If you are inside, crawl under a heavy piece of furniture and hold on or get under a doorframe.
- If you are outside, stay in an open area.
- If you are in your vehicle or equipment, stop driving.

After an Earthquake

- Check for injuries.
- Get out of the building if it appears to be structurally unsound – do not re-enter the building. If the building is evacuated, go to the Emergency

- Assembly Point and account for employees, contractors, guests, etc.
- Use any available means to get up to date information and instructions.
- Be aware of broken glass and other sharp objects on the floor.
- Be aware of material above your head that might fall.
- Check water, gas and electric lines for damage (natural gas odor) then see for information on utilities listed in this plan.
- Do not use matches, or smoke.
- Do not go sightseeing.
- Expect aftershocks.
- Treat all minor injuries with first aid.
- Do not attempt to move seriously injury people, contact emergency responders immediately.
- *Check Bulk Fuel / Solvent Storage Systems*
- Extinguish all smoking and small flames.
- If a spill/leak exists, attempt to stop the leak/spill or absorb fuel/solvents with inert materials.

8.4 UTILITIES FAILURE

8.4.1 NATURAL GAS

NATURAL GAS LEAK

If a gas odor is present and it is strong, take immediate action:

- Do not attempt to locate gas leaks.
- Do not turn lights on or off or unplug electrical appliances.
- Do not use telephones in or around the building or office.
- Do not position or operate vehicles or powered equipment.
- Do not attempt any other repairs to the natural gas systems.
- Open doors and windows.
- Evacuate the building. All employees are to report to the Emergency Assembly Point. Account for STL Land Development, LLC personnel, guests, contractors, etc.
- Call Fire Department, Natural Gas Company, District Manager, and/or Plan Administer. Use mobile phones that are a safe distance away from the building or off-site land lines.
- Turn off the gas at the outside main valve if you can and call the Gas Company from a cellular telephone or a telephone away from the affected property. If you turn off the gas for any reason, it must be turned back on by a professional.

8.4.2 ELECTRICITY FAILURE SHORT TERM AND LONG TERM

In case of electrical failure, the following individuals must be contacted:

- General Manager – See Appendix C for contact information.
- Plan Administrator– See Appendix C for contact information.
- Electricity Supply Company – See Appendix C for contact information.

During Electricity failure:

- Battery powered flashlights and lanterns should be used for supplemental light.
- Supervisors to verify auto “turn on” of the onsite generators
- Candles should NOT be used for a temporary means of light.
- Ensure all temporary heating sources are kept at least 3 feet from all combustible material.

8.5 SPILLS AND RELEASES

8.5.1 Hazardous Spills and Releases

- Immediately refer to any product data, MSDS, or additional information about the material involved for emergency procedures.
- Do not smoke. Do not create sparks.
- Be aware of the wind and avoid inhaling hazardous fumes.
- Use caution operating near hazardous materials. The material should be considered hazardous even if the suspected material has not yet been confirmed hazardous by a professional.
- Do not let people or equipment make contact liquids, dust, or fumes of hazardous materials.
- Only trained professionals should attempt to clean-up the hazardous materials.
- Do not come into contact with the hazardous material.
- Some hazardous materials can react violently with other chemicals and other materials – use extreme caution.

8.5.2 FUELS / OILS

Fuels and oils that are spilled can be absorbed with specific material designed for this purpose – they are often called “snakes”, “booms”, or “pillows”. These materials, after use, are moved in drums to a used oil containment area until suitable transport to an off-site disposal location can be arranged.

If a fuel / oil spill occurs:

- Stop the flow of material if possible, using valves or switches.
- Do not smoke.
- Do not pass vehicles over the spilled material, as these could be a spark/ignition source hazard.

- Refer to the Spill Prevention, Control, and Countermeasure Plan for details on clean up procedures.

8.5.3 OFF-SITE RELEASES

If an Off-Site Spill Occurs:

- If possible, construct an earthen dam, plug the leak, use other barriers to reduce the spread of contamination. Do not contact the material, contaminated dust, fumes or gases.
- In case of an off-site release, the following individuals must be contacted:

General Manager – See Appendix C for contact information.

Operations Manager – See Appendix C for contact information.

- Depending on severity – governmental agencies may need contacted.

9.0 BOMB THREAT

If a bomb threat is received, the following procedures should be followed:

- The employee notifies a supervisor immediately;
- The employee attempts to keep the caller on the line and completes the Bomb Threat Phone Checklist contained in Appendix D.
- The supervisor will then notify the Emergency Coordinator, the Police and Fire Departments, and evacuate the building;
- The employee documents everything that can be remembered about the threat and give this information to the supervisor;
- Evacuate building or affected area;
- A search will be made of the building by the authorities;
- Do not re-enter the building until given an "all clear" by the Police or Fire Department

APPENDIX A

APPENDIX B

APPENDIX C

Organization	Names	Home Phone	Office Phone	Mobile
Emergency Coordinator	Pending Hire	(000) 000-0000	(000) 000-0000	(000) 000-0000
Alternates				
Corporate Contact	Ryan Bird	(201) 954-4841		
General Manager	Pending Hire			
Plan Administrator	Pending Hire			
Fire Rover		(844) 417-6837		
Ambulance	City of St. Louis	911		
Police	City of St. Louis	911		
Fire	City of St. Louis	911		
State Trooper Office				
Hospital #1	Barnes Hospital			
Hospital #2	Old DePaul Hospital			
Poison Control Center		(800) 222-1222		
State Agency		(573) 751-5401		
HAZMAT	City of St. Louis	911		
Motor Vehicle Enforcement		911		
Equipment Rental	Patriot Rental	(314) 385-2222		
Regional EPA – Region 7	Emerg. Response	(913) 281-0991	24hrs	
National Response Center		(800) 424-8802		
Center for Disease Control		(800) 424-4100		
Chemtrix		(800) 424-9555		
Local Emergency Planning Committee		(314) 615-9500		
Envir. Remediation – Golder Associates		(314) 984-8800		
Electric Utility – Ameren MO		(800) 552-7583		
Natural Gas Utility - Spire		(800) 887-4173		
Towing Company – St. Louis Metro Towing		(314) 621-1600		
Locksmith – Clements Lock & Security		(314) 865-2242		

APPENDIX D

REG-F014

BOMB THREAT PHONE CHECKLIST

Your Name: _____

Time: _____ am/pm

Date: _____

Caller's Identity: ☐ Male ☐ Female

Approximate Age: Years: _____

Origin of Call: ☐ Local ☐ Long Distance ☐ Phone Booth ☐ Internal

CALLER'S VOICE IS (Circle description(s) that apply)

Slow	Fast	Loud	Foreign	Calm
High Pitch	Distinct	Raspy	Stutter	Foul
Drunk	Slurred	Deliberate	Deep	Distorted
Angry	Nasal	Irrational	Laughing	Emotional

BACKGROUND NOISE (Circle description(s) that apply)

Office	Factory	Animals	Traffic	Music
Airplanes	Party	Quiet	Train	Other Voices

BOMB FACTS

Keep caller talking. If caller seems agreeable to further conversation, ask questions like:

1. When is the bomb going to explode?
What hour: _____ Time remaining: _____
2. Where is the bomb?
Building: _____ Area: _____
3. What kind of bomb is it? What does it look like? Do you know who placed the bomb?
4. Where are you now?
5. What's your name and address?

Did the caller appear familiar with the plant or building by description of the bomb location?
Write out the message in its entirety and any other comments on reverse side.

Call the following people immediately after the bomb threat call:

